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Evidence-Based Practice in Action: Ensuring Quality of Pediatric Assessment Frequency

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Abstract

Optimal head to toe assessment frequency in hospitalized pediatric patients is unknown.

Although pediatric patients have many accommodations based on their age, developmental state, and varied needs, healthcare professionals have not published any research regarding the optimal frequency for registered nurses to perform head-to-toe assessments in hospitalized pediatric patients. Healthcare professionals must make decisions based on evidence-based practice. A

change in pediatric assessment intervals was proposed at a Midwestern regional medical center.

The purpose of this pilot study was to ensure patient safety and staff satisfaction following a policy change in head-to-toe assessment frequency. Chart audits were performed on all patients upon discharge and after any status upgrade to ensure the decline in status was not related to the change in head-to-toe assessment frequency. A total of 421 patients were included in the study.

Seventeen patients had a change in status; eleven patients were upgraded to an intermediate level of care and six were transferred to the intensive care unit. Both registered nurses and primary care providers responded that they were satisfied with the change in assessment frequency. All registered nurses reported they believed there was no increase in unplanned upgrades or transfers after the change. Following the pilot period, the unit policy was changed to reflect the new head-to-toe assessment interval. While our research has demonstrated safety in the policy change, additional studies are needed to assure safety in a wider variety of patients and settings.

Evidence-Based Practice in Action: Ensuring Quality of Pediatric Assessment Frequency

Every year, millions of children are hospitalized. In 2010, 376.7 of every 10,000 children under the age of 18 were admitted to hospitals in the United States (DHHS, 2013). Children ranging in age from one day old to seventeen years old comprised nearly 17% of all hospital stays in 2009 (Yu, Wier, & Elixhauser, 2011). Children are admitted for reasons ranging from chronic illnesses and genetic conditions to viral or bacterial illnesses and traumatic accidents. Registered nurses (RNs) on pediatric units are responsible for providing care to a diverse and unique population. It is an RN's responsibility to provide care guided by ongoing assessment; this requires RNs complete head-to-toe assessments in hospitalized patients at least once per shift (ANA, 2010). Head-to-toe assessments allow the RN to gain an understanding of the patient's overall health and provide information on the extent of disease in specific body systems. For children that do not have chronic or genetic conditions, assessment findings for most body systems will be normal.

A patient's acuity refers to the severity of their illness and the level of attention he/she will need from staff (Venes, 2001). The delivery of healthcare is guided by a patient's level of acuity. In emergency medicine, the use of acuity to identify and prioritize patients that are the most ill is known as triage. Triage is the practice of classifying casualties to maximize the use of resources to ensure the welfare of patients (Venes, 2001). After patients are triaged and have received the necessary emergency care, acuity is used to decide the level of care at which the hospitalized patient will be admitted. Floor status patients are the least critical of patients. Patients admitted to the pediatric intermediate medical care unit (PIMCU) require more care than floor status patients, but are generally stable. The most critical and unstable patients are admitted to the pediatric intensive care unit (PICU). The acuity of patients on each unit guides the ratio of

patients to RNs. RNs that care for critically ill patients have fewer patients at a time to allow for closer monitoring of each patient; lower nurse to patient ratios have been linked with better patient outcomes (Aiken et al., 2002).

Prior to this study, one Midwestern regional medical center had a policy that required RNs perform a head-to-toe assessment every four hours on floor status patients and every two hours on PIMCU status patients. RNs on the pediatric unit at the hospital noticed that the policies for the pediatric unit and the neonatal intensive care unit required patient assessments same interval; both populations were assessed head-to-toe every four hours. RNs were completing head-to-toe assessments on intermediate status patients every two hours while critically ill neonates were assessed every four hours. The discrepancy between hospitalized patients' acuity and the required assessment interval led RNs to reevaluate the pediatric unit's policy. The question was brought to the pediatric unit's partnership council; further investigation by the hospital staff and researchers did not reveal any published studies to guide head-to-toe assessment frequency.

Preceding the change in policy, the RN completed head-to-toe assessments every four hours for floor status patients. RNs assessed all body systems regardless of the child's admitting diagnosis. The policy changed the head to toe assessment frequency to every 12 hours with focal assessments every four hours on floor status patients and every two hours on PIMCU patients. A focal assessment is evaluation of only pertinent systems. For most children, the focal assessment will include only one or two body systems, such as respiratory or neurological.

Safety

Following the modification in policy, the standard of care remains unchanged. RNs are still expected to maintain hospitalized patients' safety and advocate for the patients' needs. RNs

continue to assess patients at the same interval (every four hours for floor status patients and every two hours for PIMCU patients). However, the policy change allows the RN to focus assessments on problem areas rather than the entire body. If any care provider is concerned about the hospitalized patient's status, an assessment may be performed at any time (Appendix A).

The health of pediatric patients is monitored independent of physical assessment. Vital signs (including temperature, pulse, and respiratory rate) are taken every four hours on floor status patients and every two hours on PIMCU patients, or according to the physician's orders (Appendix A). The hospitalized patient's blood pressure is recorded once per shift. RNs complete rounds at least hourly per the hospital's policy (Appendix A). During hourly rounding, the RN is able to visually assess the patient for any change in status and determine if a more detailed assessment is needed, as well as ask the patient and their caregiver about pain or other unmet needs.

Existing Research

Although pediatric patients have many accommodations based on their age, developmental state, and varied needs, health professionals have not published any research regarding the optimal frequency for RNs to perform head-to-toe assessments in hospitalized pediatric patients. The unit manager sent an email to regional Magnet hospitals with pediatric units to determine to policies of other hospitals. The survey yielded nine responses and indicated that other pediatric units complete head-to-toe assessments every four hours to every twelve hours (Table 1; J. Woods, personal communication, October 8, 2012). None of the hospitals surveyed had research evidence to support their head to toe assessment frequency. For the most prudent use of time and resources as well as the provision of quality patient care, it is imperative that RNs conduct assessments based on research.

Literature Review

None of the pediatric studies found in a review of recent literature specifically focused on head-to-toe assessment frequency in pediatric patients. Information was published pertaining to assessment of symptoms in pediatric patients, triage assessment, and assessment of patients' status. General guidance for pediatric assessment and pediatric nurses' scope of practice was available from the American Nurses Association (ANA). Importance of evidence-based practice in the healthcare industry and within pediatric hospitals was published as well.

Symptom Assessment

Atay, Conk, and Bahar (2012) analyzed symptom clusters in pediatric patients with cancer using the Memorial Symptom Assessment scale, which had previously been used only in adults. The survey was used to determine the prevalence of specific symptoms within the population as well as the presentation and impact of symptoms. Patients were assessed at one-month intervals for the first three months after diagnosis. The researchers found that children with cancer experience a wide range of symptoms. Findings may be used to develop assessment protocols for children with cancer (Atay, Conk, & Bahar, 2012). Research on pain assessment tools and pain management specific to pediatrics has been conducted; researchers recommend RNs assess pain frequently and consider behavioral observations when determining the presence and severity of pain in children (Conlon, 2009; Kozlowski et al., 2014).

Triage Assessment

Thompson, Stanford, Dick, and Graham (2010) concluded that triage assessment in emergency departments specific to pediatric patients must be further researched after a survey of 99 pediatric emergency departments reflected a lack of regulation in factors assessed when a child is triaged. While all RNs reported obtaining the child's pulse and respiratory rate, only 41%

measured pulse oximetry as a part of the triage assessment (Thompson et al., 2010). Pediatric triage assessment needs to be standardized so that emergency departments can provide consistent, evidence-based care to pediatric patients.

Assessment of Status

While head-to-toe assessments are useful for understanding a patient's overall health, focal assessments and evaluation of vital signs are critical in determining a patient's current status and likely trajectory. The Bedside Paediatric Early Warning System (PEWS) is a scoring system developed to promote early recognition of a patient's deterioration and promote early intervention (Parshuram, Hutchinson, & Middaugh, 2009). Information within the PEWS assessment is primarily obtained during the measurement of vital signs. Heart rate, systolic blood pressure, capillary refill time, respiratory rate and effort, oxygen saturation, and use of oxygen therapy comprise the score, which has a range from 0 to 26. A score of 8 or above is strongly correlated with an imminent need for an upgrade in status, meaning the patient requires therapies and monitoring only available to patients that are PIMCU or PICU status (Parshuram et al., 2009). The Bedside PEWS score is a better determinant of acutely ill versus well children than the retrospective opinion of the bedside RN (Parshuram et al., 2009). Research on use of PEWS to anticipate clinical deterioration in children was focused on validity of the scale, sensitivity of scores, and specificity of scores. The research did not provide guidance on the optimal frequency of assessment with PEWS. While head-to-toe and focal assessments are useful for guiding treatment, PEWS scores aid health care professionals in early identification of clinical deterioration.

Scope and Standards of Practice

The ANA (2008) has identified six standards of practice for pediatric patients, which are guided by the nursing process. The standards include assessment, diagnosis, outcomes identification, planning, implementation, and evaluation. Within the standards of practice, there are several themes that guide all areas of nursing practice (ANA, 2008). Patient advocacy is a care standard expected of all RNs. The ANA states that RNs are to use evidence-based assessment techniques tailored to the hospitalized pediatric patient's age to obtain pertinent data (ANA, 2008). The assessment may include measurement of body size, vital signs and pain assessment, nutritional assessment, and physical examination. Behavioral, developmental, and family assessments may also be indicated (ANA, 2008).

Evidence-Based Practice

Nursing emphasizes evidence-based practice. Implementation of evidence-based practice to ensure best practices is considered a standard nursing practice (ANA, 2008). The IOM (2001) emphasized use of evidence-based practice in healthcare, especially in the creation of clinical practice guidelines. Nursing leaders from one US children's hospital formed a critical care practice group to evaluate best practices and standardize policies across the hospital's critical care units (Lincoln et al., 2013). Collaboration among committee members representing each unit resulted in substantial practice changes. For example, the group advocated for standardized infusions between units, clarified issues regarding dialysis, and evaluated screening tools for the prevention of venous thromboemboli (Lincoln et al., 2013). The changes implemented as a result of collaboration and informed decision-making improved patient safety and reduced staff member frustration (Lincoln et al., 2013). Unfortunately, the group made no mention of optimal assessment frequency.

Bedside RNs are in an ideal position to participate in evidence-based practice. RNs actively providing patient care are able to assess issues in the nursing field and advocate for practical, appropriate changes. However, there are several barriers that prevent nurses from engaging in research. Perceived powerlessness, lack of funding and support, and limited education on research inhibit contributions to research by bedside RNs (Edwards, Webber, Mill, Kahwa, & Roelofs, 2009).

Burnett, Lewis, Joy, and Jarret (2012) recruited nurses to serve on a research team evaluating the reliability and validity of a fall risk assessment tool. Nurse champions were responsible for leading the study on the unit they worked. Researchers recognized several challenges in recruiting bedside nurses to serve as nurse champions for research within the hospital (Burnett et al., 2012). Nurse champions underestimated the difficulty in organizing the study on their units. Adequate time to participate was also a concern; RNs were not able to meet study requirements during patient care hours. Support from nurse managers was required to allow RNs to effectively participate in leading the research (Burnett et al., 2012). There were numerous benefits of partnership between researchers and nurse champions. Nurse champions had rapport on their respective units and were able to continually assess the success of the study, which promoted collection of quality data (Burnett et al, 2012).

Staffileno, Wideman, and Carlson (2013) investigated the use of a hospital-based PhD nurse researcher. The nurse researcher could be used to determine research needs within the medical center, disseminate research findings to bedside RNs, and encourage bedside RNs to engage in research (Staffileno et al., 2013). Hospital-based PhD nurse researchers can facilitate improved patient outcomes and cost-savings through research utilization and unit-based quality improvement. Issues such as patient falls, pressure ulcers, and hospital-acquired infections have

all been decreased through use of evidence-based practice (Staffileno et al., 2013). While RN participation in evidence-based practice is not yet well integrated in healthcare, the importance of evidence-based practice in patient outcomes and costs is apparent.

Research Purpose and Aims

The purpose of this pilot study was to ensure patient safety following a policy change in head-to-toe assessment frequency on an inpatient pediatric unit and to measure the satisfaction of RNs and primary care providers with the policy change.

The research aims were:

1. To monitor patient safety by determining if unplanned transfers were associated with the change in head-to-toe assessment frequency.
2. To determine RN satisfaction with the change in frequency of assessments, as well as to gauge whether the change was associated with decreased charting time, reduced workload, and increased time to complete non-charting nursing tasks.
3. To determine primary care provider satisfaction with head-to-toe assessment frequency and the care given by RNs after the proposed change.

Method

Study Design

This was a non-experimental pilot study involving a convenience sample of pediatric patients, RNs, and primary care providers on a seventeen-bed, inpatient pediatric unit at a Midwestern regional medical center. Approval for the study was granted by the Institution Review Board (IRB) of both the researchers' affiliated university and the medical center participating in the project. A waiver of informed consent was obtained, as the change in head-to-toe assessment frequency was precipitated by a change in the unit policy. Surveys were

emailed to RNs and primary care providers two weeks prior to the scheduled change and again two weeks prior to the end of the pilot period. A statement of consent was included at the beginning of the surveys for RNs and primary care providers, which were administered online via Qualtrics; by completing the survey, RNs and primary care providers implied consent. Chart audits were collected until preliminary data on all aims were reviewed.

In collaboration with hospital management, the pediatric assessment policy was revised to include head-to-toe assessments every 12 hours with focal assessments every four hours for floor status patients and every two hours for PIMCU patients. A frequency of every 12 hour head-to-toe assessments was based on the response of hospitals surveyed, a desire to make a change significant enough to affect time management, and to ensure RNs completed assessments no less than once per shift. After the policy change, RNs continued to complete hourly rounds to visually assess patients, monitored vital signs according to unit policy, calculated PEWS scores every four hours, and completed focal assessments at the previous head-to-toe assessment frequency. While the change decreased the number of head-to-toe assessments, it did not decrease the amount of patient contact or other assessments.

Prior to the policy change, staff was educated no less than twice and ample opportunities to ask questions were given. Two weeks prior to scheduled policy change, a pretest was emailed to RNs and primary care providers. Reminder emails were sent one week and two days prior to survey closure. A final staff meeting was scheduled four days prior to the policy change to answer questions and provide a reminder of the upcoming change. The survey closed the morning that the policy changed. The change in head-to-toe assessment frequency took place on a Monday morning when nursing management was available to answer questions and provide

reminders. Signs were placed in key locations throughout the unit and at each computer to remind RNs of the policy change.

Chart audits were used to monitor patient safety throughout the study. A chart audit was completed for every patient discharged after the policy was changed to monitor patient safety. Additionally, chart audits were completed within 24 hours of any status upgrade and an incident report was filed per unit policy to ensure there were no adverse outcomes related to the change in assessment frequency.

Eight weeks after the policy change, the unit manager emailed posttests to all RNs on the unit and all primary care providers who regularly admit patients to the unit. RNs and primary care providers had a period of two weeks to complete the survey. Following the collection of survey data, posttest responses were analyzed to determine the perception of the policy change by both RNs and primary care providers. Chart audits continued until the posttest closed and the policy was made permanent (Appendix A).

Instruments

Chart Audit. The chart audit tool (Appendix B) was used to collect the patient's age, admitting diagnosis, and assessment compliance. Auditors completed a table for major changes in assessment findings between head-to-toe assessments. The reverse side of the tool, which was completed for patients that were upgraded to a higher level of care, was used to determine whether the patient was upgraded within four hours of admission, what actions were taken to improve the patient's condition, whether the upgrade was related to the change in assessment frequency, and the PEWS score recorded at the time of upgrade.

Registered Nurse and Primary Care Provider Satisfaction. Surveys were created for both RNs and primary care providers. No existing surveys aligned with the purpose of the study,

so all surveys were created with consideration of study aims. The unit manager and nursing supervisor of the pediatric unit reviewed the surveys for applicability and relevance. An experienced nursing researcher also reviewed the surveys for quality. The pretest for RNs (Appendix C) included basic demographic information, questions about charting time, and perceptions of patient care. The posttest for RNs (Appendix D) included demographic data and time spent charting, but also included a comment box for the RN to explain his/her perception of the safety of the policy change.

The pretest for primary care providers (Appendix E) included demographics, assessment and charting adequacy, and evaluated the satisfaction with care provided by the RNs. The posttest for primary care providers (Appendix F) included demographic data and satisfaction with care provided by RNs.

Sample

The data set included 436 chart audits with a total of 421 patients. All pediatric patients (age <22 years) were included in the chart audit. Pretest and posttests were sent to all RNs employed on the pediatric unit and all primary care providers who admit to the unit. No potential subject for the pretest or posttest was excluded. There were fifteen responses (65%) from RNs to both the pretest and the posttest from a total of 23 RNs. The survey was distributed to all six primary care providers that regularly admit patients on the unit. Of the primary care providers, four (67%) responded to the pretest and two (33%) to the posttest. At the request of the unit manager, responses to pretest and posttest surveys for RNs and primary care providers were not paired, which was necessary to assure confidentiality and encourage honest responses.

Statistical Analysis

SPSS 22.0 was used for statistical analysis. Descriptive statistics were used to analyze demographic data for patients, RNs, and primary care providers. Frequencies were used to analyze data such as the patient's length of stay and admitting diagnosis. Independent t-tests were used to compare pretest and posttest results for RN and primary care provider surveys. Due to the small sample, the Mann-Whitney U was also used to compare pretest and posttest findings. Spearman's rho was used for correlations due to level of measurement of each variable.

Results

Chart Audits

In the twelve-week study period, a total of 436 chart audits were completed; 403 were completed at the time of discharge for patients with an uneventful hospital stay; eighteen audits were completed after a patient was upgraded. Fifteen charts were audited twice, once at the time of upgrade and once at discharge. Ages ranged from 2 days old to 21 years old, with an average age of 5.84 years \pm 5.7 (Table 2). The average length of stay was 2.67 days \pm 2.9. The most common admitting diagnoses were respiratory issues, gastrointestinal/ genitourinary issues, and infection (Table 3). Patients' age was correlated with admitting diagnosis.

There was no increase in unplanned transfers and upgrades following the policy change. During the study period, there were eighteen upgrades. Sixty-seven percent of patients were upgraded to PIMCU status, while 33% were transferred to the intensive care unit. Patients' reason for admission was significantly correlated with the likelihood that the patient would be upgraded during their hospital stay. Sixteen of eighteen upgrades were patients that had a primary diagnosis of respiratory origin. Patients that were upgraded were hospitalized for an

average of 4.9 days \pm 2.7. Eight of the eighteen upgraded patients were upgraded within four hours of admission; likely, these patients should have been admitted at a higher level of care.

Assessments were completed at appropriate intervals for all but one of the upgraded patients. Of patients that were not upgraded, head-to-toe assessments were completed at appropriate intervals 99.5% of the time. For floor status patients, focal assessments were completed at appropriate intervals on 93.4% of patients. For PIMCU patients, focal assessments were completed at appropriate intervals on 73.6% of patients. When assessments were not charted at the correct interval, often one or two assessments were missed throughout the patient's hospital stay. The total number of missed focal assessments overall was not available from the chart audit data.

Registered Nurse Satisfaction

Pretest. A survey of RNs on the pediatric unit yielded fifteen responses, a response rate of 65% (Table 4). All respondents were female. The average age of respondents was 30 years \pm 6.1 (range 23-43). On average, the respondents had 5.4 years \pm 4.3 of experience with an average of 4.9 years \pm 4.3 working at the hospital as an RN. The majority of RNs (60%) had a Bachelor's degree; 20% reported having some graduate school. Correlations yielded several significant results (Table 5). RNs with a higher degree tended to spend more time charting assessments and perceive charting detracted from their ability to provide hands-on patient care. RNs that spent more time charting were more likely to believe that the protocol change would allow more time for patient care. RNs that felt they consistently provided excellent patient care were more likely to believe the change would allow more time for patient care. Two RNs that reported not consistently provide excellent care noted barriers such as time constraints, staffing shortages,

rushing through caregiving tasks, and interruptions in care due to monitors, call lights, and phones.

Posttest. A survey distributed after the protocol change generated responses from fifteen RNs, a response rate of 65% (Table 4). All respondents were female. The average age of respondents was 27.9 years \pm 7.6 years (range 24-54). Respondents had an average of 5.5 years \pm 7.9 years of experience as an RN, with 4.7 years \pm 5.2 years working at the hospital as an RN. The majority of RNs (80%) held a Bachelor's degree; 13% had completed some graduate school. RNs with a higher degree tended to spend more time charting and were likely to perceive that charting detracted from their ability to provide hands-on patient care. RNs that spent more time charting were more likely to believe that the protocol change allowed more time for patient care (Table 6). Three RNs felt they did not consistently provide excellent care; responses indicated obstacles such as short staffing, excessive expectations, excessive charting, and lack of time to do everything. All RNs responded "no" when asked if they believed there was an increase in status upgrades after the policy change. RNs elaborated, "things are going very smoothly," that they are more able to "focus on the current issues," and that "it helps to have to do less charting so that we can give better patient care and have more time to set eyes on our patients." One RN stated that completing focal assessments instead of head-to-toe assessments has "enhanced my [the RN's] assessment skills by allowing me [the RN] to focus on why the patient is here."

Comparison of Pretest and Posttest Data. Data were analyzed using independent t-tests and nonparametric tests (Table 4). Due to the small sample size and possibility of linking data to the respondent, pretest and posttest data were not paired in order to promote confidentiality. Although none of the findings were statistically significant, several questions reflected clinical significance. One aim was to determine if the change in policy decreased the time an RN spent

charting per shift. While RNs identified that they felt they spent less time charting, the self-reported time spent charting after the policy change was not significantly different; the lack of significance was likely due to low statistical power. On the pretest, the most common report of time spent charting was more than 121 minutes per shift (40%); on the posttest, the most common response regarding time spent charting was 91-120 minutes (60%). The researchers did not expect to find a decrease in time spent charting individual assessments; time reported by RNs remained approximately the same. On the posttest, fewer RNs agreed that time spent charting took away from time for hands-on patient care (87% to 67%). Following the policy change, 93% of RNs agreed that completing head-to-toe assessments every twelve hours instead of every four hours allowed more time for patient care.

Primary Care Provider Satisfaction

Pretest. A survey of primary care providers completed before the protocol change yielded four responses, a response rate of 67%. The mean age of respondents was 47 years \pm 9.8 years (range 35-59 years). The experience of primary care providers ranged from eight to thirty years, with a mean of 19.5 years. Years working at the hospital ranged from two to five years. Only 50% of respondents correctly identified the frequency of head-to-toe assessments prior to the protocol change. When asked if they were pleased with the care their patients received on the unit, 75% of the primary care providers responded affirmatively. Two primary care providers indicated via a comment box on the survey that assessment frequency could be tailored to the patient's need based on status and reason for admission, which indicates support of the policy change.

Posttest. After the change in protocol for assessment frequency, two primary care providers responded. Both respondents were female. The mean age was 40 years \pm 5.7 years

(range 36-44 years). The respondents had a mean of 10.5 years \pm 3.5 years of experience, with an average of 7.5 years \pm 3.5 years of experience at the hospital. Both primary care providers believed that completion of head-to-toe assessments every twelve hours was sufficient for identifying changes in a patient's status and were satisfied with the care that their patients received while on the unit.

Discussion

Patient safety, RN satisfaction, and primary care provider satisfaction following the policy change were supported. Based on this study, the unit policy has been changed to require that RNs complete head-to-toe assessments every twelve hours with focal assessments every four hours for floor status patients and every two hours for PIMCU patients (Appendix A). The completion of head-to-toe assessments every twelve hours instead of every four hours maintains patient safety while allowing RNs more time to complete other tasks. Aiken, Clarke, Cheung, Sloane, and Silber (2003) found that there was a decrease in mortality of postoperative patients and significantly better outcomes when RNs at the bedside had a greater level of education. Results of this study demonstrate significant correlations between an RN's level of education and responses related to provision of care. RNs with a higher degree reported spending more time charting, implying more thorough documentation. Additionally, RNs with a higher degree were more likely to believe that the decrease in frequency of head-to-toe assessments allowed more time to provide hands-on patient care. Both quantitative and qualitative responses indicated that RNs were satisfied with the protocol change and did not perceive any of the unplanned transfers to be attributed to the change in protocol.

Lincoln et al. (2013) found meaningful changes in a hospital's nursing practice following the formation of a practice group to standardize policies across hospital units using best

evidence. The practice group's advocacy of policy standardization across units improved patient safety and reduced staff member frustration (Lincoln et al., 2013). Results of this study indicate satisfaction with the change in head-to-toe assessment interval and incorporation of focal assessments. Although not statistically significant, RNs felt they spent less time charting and believed they had more time for patient care after the change. Through this evidence-based change, RNs on the pediatric unit were able to experience positive modifications in their practice based on a question that originated from bedside RNs working on the unit.

Limitations

Several limitations to the study existed. The single-site study may not generalize to other settings. Some common reasons for admission to a pediatric unit were not well represented in the sample, such as cardiovascular issues and toxic ingestion. PEWS scores were only collected for patients that were upgraded, so comparison of scores against patients not upgraded was not possible. Although the response rate to surveys was generally high, the sample size of RNs and primary care providers was small due to the study site. RNs responding to the survey formed a fairly homogenous sample; all were female and most were under thirty years of age. The surveys and chart audit tool we created specifically for the study; the statistical reliability and validity of the tools were not studied prior to use. Research findings indicated a link between an RN's level of education and care provided to patients, but the researchers were unable to assess the impact of the policy change on RNs with less education.

Future Research

Several aspects of the study may be improved in future research. In this study, RNs were asked to estimate the time spent charting; ideally, future researchers would collect a more accurate number through software, observation, or a log kept by each RN for an objective

evaluation. Pretest and posttest responses should be paired in future studies to better evaluate the change in time spent charting for each RN. While this study was limited by a small sample size, a larger study can ensure the safety of head-to-toe assessments completed every twelve hours in a varied population. Research of pediatric head-to-toe assessment intervals at a pediatric hospital would likely have a larger sample size and a more diverse population of patients, RNs, and primary care providers. In future research, the posttest distributed to RNs should include a question regarding the time an RN spends charting a focal assessment, which researchers would compare to the time spent charting a head-to-toe assessment to more fully understand potential time savings. Further research can assess the impact of policy change on an RN's overall job satisfaction.

Nursing Implications

Inpatient pediatric units should consider further investigating the optimal frequency for head-to-toe assessments. The study indicated that patient safety was maintained when the assessment policy was changed from requiring head-to-toe assessments every four hours on floor status patients and every two hours on PIMCU patients to requiring head-to-toe assessments once per twelve-hour shift with focal assessments completed every four hours for floor status patients and every two hours on PIMCU patients. Use of evidence-based practice to assess pediatric patients will allow for safe patient care while also maximizing time an RN has to complete work. This study allowed RNs on the unit to be involved in research that was important for the unit. Incorporation of evidence-based practice allows nurses to complete head-to-toe assessments every twelve hours, an interval that maintains patient safety as well as RN and primary care provider satisfaction. Ideally, this research will promote research at the bedside and

encourage RNs to critically evaluate current practice guidelines to ensure policies are based on evidence-based practice.

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Table 1

Survey of Area Magnet Hospitals

Head-to-Toe Assessment Interval	Frequency	Percentage
Every 4 hours	1	12.5%
Every 6 hours	2	25%
Every 8 hours	3	37.5%
Every 12 hours	3	37.5%

Table 2

Age Frequency for Pediatric Population during Study

Age Category	Age Range	Frequency	Percentage
Neonate	<28 days	34	8.1%
Infant	29 days- 1 year	76	18.1%
Toddler	1-3 years	108	25.7%
Preschool Age	3-5 years	27	6.4%
School Age	5-12 years	98	23.3%
Adolescent	12-18 years	75	17.8%
Adult	18-21 years	3	0.7%

Table 3

Reason for Admission in Study Population

Diagnosis	Frequency	Percentage
Respiratory	134	31.8%
Gastrointestinal/ Genitourinary	98	23.3%
Infection	98	23.3%
Neurological	61	14.5%
Hematologic	33	7.8%
Integumentary	23	5.5%
Traumatic Injury	21	5%
Pain	21	5%
Endocrine	18	4.3%
Ear/Nose/Throat	16	3.8%
Growth Issue	16	3.8%
Toxic Ingestion	13	3.1%
Musculoskeletal	9	2.1%
Cardiovascular	3	0.7%
Oncological	2	0.4%
Reproductive	1	0.2%
<i>Note.</i> Some patients had >1 admitting diagnosis; all diagnoses added will be greater than 100%.		

Table 4

Data for Registered Nurses Completing Survey

Variable	Pretest	Posttest	<i>t</i> test	Nonparametric
	N (%)	N (%)	t (p)	P value
Minutes spent charting per shift			1.2097 (0.2365)	0.267
30-60 minutes	1 (7%)	2 (13%)		
61-90 minutes	4 (27%)	3 (20%)		
91-120 minutes	4 (27%)	9 (60%)		
more than 121 minutes	6 (40%)	1 (7%)		
Minutes spent charting a head-to-toe assessment on floor status patient			1.2603 (0.2180)	0.217
0-5 minutes	1 (7%)	3 (20%)		
6-10 minutes	8 (53%)	9 (60%)		
11-15 minutes	6 (40%)	3 (20%)		
more than 15 minutes	0 (0%)	0 (0%)		
Minutes spent charting a head-to-toe assessment on PIMCU patient			0.3643 (0.7183)	0.683
0-5 minutes	0 (0%)	0 (0%)		
6-10 minutes	6 (40%)	7 (47%)		
11-15 minutes	6 (40%)	6 (40%)		
more than 15 minutes	3 (20%)	2 (13%)		
Always complete head-to-toe assessment, as opposed to completing focal assessments				
Disagree	5 (33%)			
Neither agree nor disagree	1 (7%)			
Agree	9 (60%)			
Believe charting takes away from time for hands-on patient care			0.5211 (0.6064)	
Disagree	2 (14%)	3 (20%)		
Neither agree nor disagree	0 (0%)	2 (13%)		
Agree	13 (87%)	10 (67%)		
Believe completing head-to-toe assessments every 12 hours instead of every 4 hours allows more time for hands on patient care			1.3284 (0.1948)	
Disagree	0 (0%)	1 (7%)		
Neither agree nor disagree	1 (7%)	0 (0%)		
Agree	14 (93%)	14 (93%)		
Agree that they have adequate time to complete all work and provide excellent patient care			0.2725 (0.7872)	
Disagree	4 (27%)	2 (14%)		
Neither agree nor disagree	3 (20%)	5 (33%)		
Agree	8 (53%)	8 (53%)		

Variable	Pretest	Posttest	<i>t</i> test	Nonparametric
			t(p)	P value
Believe they consistently provide excellent care			0.6847 (0.4992)	0.775
Yes	13 (87%)	12 (80%)		
No	2 (13%)	3 (20%)		
Has the change in frequency of head-to-toe assessment had a negative impact on code speeds?				
Yes		0 (0%)		
No		15 (100%)		

Table 5

Spearman Correlations for Registered Nurse Pretest

Variable	Spearman's rho	Degree	Charting per shift	Charting head-to-toe assessment, floor status	Charting head-to-toe assessment, PIMCU	Always complete head-to-toe assessments every four hours	Charting takes away from time for patient care	Completing head-to-toe assessments every 12 hours allows more time for patient care	Have adequate time to complete work & provide excellent care	Consistently provide excellent care
Degree	<i>r</i> <i>p</i>		.867 .000**	.851 .000**	.842 .000**	.873 .000**	.904 .000**	.740 .002*	.847 .000**	.578 .024*
Charting per shift	<i>r</i> <i>p</i>	.867 .000**		.934 .000**	.863 .000**	.984 .000**	.779 .001*	.660 .007*	.886 .000**	.430 .109
Charting head-to-toe assessment, floor status	<i>r</i> <i>p</i>	.851 .000**	.934 .000**		.768 .001*	.915 .000**	.788 .000**	.545 .036*	.783 .001*	.460 .084
Charting head-to-toe assessment, PIMCU	<i>r</i> <i>p</i>	.842 .000**	.863 .000**	.768 .001*		.890 .000**	.771 .001*	.556 .031*	.907 .000**	.585 .022
Always complete head-to-toe assessments every four hours	<i>r</i> <i>p</i>	.873 .000**	.984 .000**	.915 .000**	.890 .000**		.800 .000**	.686 .005*	.901 .000**	.426 .114
Charting takes away from time for patient care	<i>r</i> <i>p</i>	.904 .000**	.779 .001*	.788 .000**	.771 .001*	.800 .000**		.633 .011*	.758 .001*	.570 .027*
Completing head-to-toe assessments every 12 hours allows more time for patient care	<i>r</i> <i>p</i>	.740 .002*	.660 .007*	.545 .036*	.556 .031*	.686 .005*	.633 .011*		.663 .007*	.195 .486
Have adequate time to complete work & provide excellent care	<i>r</i> <i>p</i>	.847 .000**	.886 .000**	.783 .001*	.907 .000**	.901 .000**	.758 .001*	.663 .007*		.618 .014*
Consistently provide excellent care	<i>r</i> <i>p</i>	.578 .024*	.430 .109	.460 .084	.585 .022*	.426 .114	.570 .027*	.195 .486	.618 .014*	

* $p < 0.05$; ** $p < 0.01$

Table 6

Spearman Correlations for Registered Nurse Posttest

Variable	Spearman's rho	Degree	Charting per shift	Charting head-to-toe assessment, floor status	Charting head-to-toe assessment, PIMCU	Charting takes away from time for patient care	Completing head-to-toe assessments every 12 hours allows more time for patient care	Have adequate time to complete work & provide excellent care	Consistently provide excellent care
Degree	<i>r</i> <i>p</i>		.578 .024*	.423 .116	.655 .008*	.644 .010*	.000 1.00	-.519 .047*	.595 .019*
Charting per shift	<i>r</i> <i>p</i>	.578 .024*		.637 .011*	.419 .120	.408 .131	.503 .056	.284 .305	.263 .344
Charting head-to-toe assessment, floor status	<i>r</i> <i>p</i>	.423 .116	.637 .011*		.627 .012*	.493 .062	.481 .069	-.068 .811	.264 .343
Charting head-to-toe assessment, PIMCU	<i>r</i> <i>p</i>	.655 .008*	.419 .120	.627 .012*		.359 .188	.324 .239	-.184 .512	.211 .450
Charting takes away from time for patient care	<i>r</i> <i>p</i>	.644 .010*	.408 .131	.493 .062	.359 .188		-.037 .895	-.433 .107	.533 .041*
Completing head-to-toe assessments every 12 hours allows more time for patient care	<i>r</i> <i>p</i>	.000 1.00	.503 .056	.481 .069	.324 .239	-.037 .895		.078 .782	.152 .588
Have adequate time to complete work & provide excellent care	<i>r</i> <i>p</i>	-.519 .047*	.284 .305	-.068 .811	-.184 .512	-.433 .107	.078 .782		-.385 .157
Consistently provide excellent care	<i>r</i> <i>p</i>	.595 .019*	.263 .344	.264 .343	.211 .450	.533 .041*	.152 .588	-.385 .157	

* $p < 0.05$; ** $p < 0.01$

Appendix A



Nursing Standard PED401

Subject	Pediatrics Basic Care Including Care of the PIMCU (Pediatric Intermediate Medical Care) Patient (Physiologic Monitoring, Hygiene, Comfort, Safety)		
Department / Location	Pediatrics / Nursing Standard		
Owner	Manager of Pediatrics		
Stakeholder/ Reviewer(s)			
Effective Date	05/96	Review Frequency	1 Year
Review Date	02/10; 05/03/12; 01/29/13; 04/24/13; 07/18/13; 01/02/14; 04/11/14		
Revision Date	02/10; 05/03/12; 04/24/13; 07/18/13; 01/02/14; 04/11/14		

*Combined Ped Nursing Standard 400.01 and 400.04 in this policy

Purpose

- A. To define the routine nursing management of all Pediatric and Pediatric Intermediate Care inpatients in relation to monitoring physiologic parameters, providing hygiene, comfort measures, safety and education in conjunction with [Basic Care – PC117](#).
- B. Level
 - 1. Independent

Definitions N/A**Statement of Policy**

- A. This nursing standard is initiated on all Pediatric inpatients.

Procedure

- A. Admission
 - 1. Orient patient/parent to environment upon admission to the pediatric unit utilizing the following:
 - a. Admission Checklist
 - b. Welcome booklet
 - c. Admit navigator in EMR.
 - 2. Assess need for collection/storage of patient/family valuables (refer to [Patient Valuables-EC619](#)).
 - 3. All parents will be asked about restricted visitors.
 - 4. Provide linen for parent/caregiver planning to spend the night (up to two caregiver that is at least 18 yo per child patient).
 - 5. Place arm band on patient at admission and assess for presence every shift. Assure it is placed on non-operative extremity peri-operatively.
 - 6. Place Hugs band on all patients <18 years of age and ensure it is registered in the system (refer to [Hugs Infant Protection System - EC616](#)).
 - 7. 2 pink bands per patient to be provided.
- B. Visiting Guidelines

1. Visiting hours are from 0900-2100 with quiet time beginning at 2030.
2. Additional quiet hours from 1400-1600.
3. Parent/guardians/caregivers are welcome to be with their child at any time.
4. Siblings are welcome to visit during visiting hours depending on patient condition. Check with RN.
5. Visitors are to be >18months of age.
6. Visitors under age 16 must be accompanied by a responsible adult.
7. A maximum of five (5) visitors is allowed in a patient room at one (1) time. Patient condition may require fewer visitors Also based on nurse discretion on number of visitors at bedside.

C. Physical Assessment

1. Perform full, head-to-toe assessment on admission, every twelve(12) hours and as needed as patient condition requires, pre-op and post-op. Focal assessments should be completed every four (4) hours for floor or observation status patients and every two (2) hours for PIMCU patients. Document on EMR.
2. Obtain nursing history. Complete Admission Navigator.
 - a. Head circumference on all patients < two (2) years old or provider order.
3. Obtain vital signs (T, P, R, and B/P) on admission. Obtain vital signs at other times according to physician orders, patient condition or protocols/standards of care; BP every shift at 0800/2000.
4. Obtain nude weight on all patients up to one (1) year of age and per physician order. Weights should be done prior to feeding.
5. Take respirations count (30 seconds x 2), (infants 60 seconds), before disturbing child. Assess breath sounds all lobes, respiratory effort, color.
6. Assess rhythm/rate, peripheral pulse, peripheral edema, capillary refill.
7. Axillary recordings for infants and young children are acceptable.
8. Oral temperature readings should not be obtained until the child is old enough to understand how to hold and retain an oral thermometer under the tongue.
9. Rectal temperatures to be obtained by physician order.
10. **NO RECTAL TEMPS ON:** patients younger than six (6) weeks, after rectal surgery, GI bleeding disorder, severe diarrhea, immunosuppressed patients, low platelet counts.
11. Take axillary temperature if unable to do orally.
12. Notify physician for elevated temperatures using the following parameters unless otherwise specified by the physician:
 - a. During the first 48 hours post-op if 102° F or higher.
 - b. For all previously afebrile patients if 101° F or higher.
 - c. Previously febrile patients, initially 2° F increase; then per physician parameters.
13. Notify physician for pulse, respiration, BP's outside of normal parameters for patients age/condition or per physician parameters, and if patient verbalizing/exhibiting psychological variances.
14. Serial abdominal exams per physician orders.
15. Rigidly adhere to patient ID routine for safety (Five (5) Rights: Right patient, medication, dose, time, and route). Refer to [Safe Administration of Medication to the Patient – MM714](#)
16. Record Information about physiologic monitoring, comfort, and safety on Doc Flowsheet. Record physician notification and physiological interaction in EPIC.

D. Daily Care and Hygiene

1. Provide daily care for patients every day and as needed. [Basic Care – PC117](#) in addition to:
 - a. Assess skin integrity for need of lotion, diaper rash care.
 - b. Perineal Care every four (4) hours and prn while on menses.
2. Encourage parent/child participation in Daily Care.
3. Orient parents to participate in patient's daily care as appropriate.
4. Encourage parents to participate in patient's daily care as appropriate.

E. Safety/Infection Control

1. Obtain appropriate bed for age/activity level using the following guidelines:
 2. Isolette/radiant warmer for infants with temp instability and phototherapy.
 3. Ohio beds/Radiant warmers to be used for infants who require open observation of breathing patterns/potential resuscitation.
 4. Stryker cribs for infants.
 5. Cage top beds used at the RN discretion or for uncooperative, unattended patients.
 6. Adult beds for children typically 3-5 years (if cooperative and parental supervision) and older.
 - a. For parents co-sleeping with child under 12 months, educate on SIDS risks. If parent continues to co-sleep, offer parent an adult bed as long as parent agrees to stay in room at all times. Raise siderails of bed while sleeping.
 7. Side rails up x2 at all times when in bed and unattended.
 8. Pad side rails for combative/disoriented patients or patients with history of seizures age 12 months or older, per seizure protocol.
 9. Assess room at the beginning of each shift and prn for safety.
 10. Remove all unnecessary/unsafe articles from patient's reach.
 11. No latex balloons.
 12. Assure use of safety straps with patients in infant seats, swings, exersaucers, high chairs, and strollers. Do not leave patient unattended when in highchair, exersaucer, swing, or out of bed.
 13. Assess patient every shift for risk for fall/injury. Implement the fall nursing standard. (Refer to [Pediatric Fall Prevention – PED410](#)).
 14. Refer to [Isolation Guidelines - IC404](#) for the care of infectious and/or isolated patients.
 15. Culture wounds/secretions and institute appropriate measures (without physician order) when indicated as follows:
 - a. Patients with inflamed, weepy or draining wounds/lesions until infection is ruled out.
 - b. Patients admitted with immune suppressed diseases, undiagnosed pulmonary problems.
 - c. Change containers, tubing, and supplies in patients rooms which are opened and used for suctioning, cleansing, drainage or irrigation (i.e. suction canister, H2O2 for trach care, G tube syringes) every 24 hours. Label items with date and time changed. (Refer to Corporate Infection Control Policy CF700 Foundation Waste Management).
 - d. Date/Time all bottles of prepared solution when opened. Store in cool area. Discard after 24 hours.
 - e. Date all multidose vials when opened. Store in a cool area. Discard after 24 hours.
 - f. Change IV bags and PCA cartridges every 24 hours and IV tubing every 96 hours (except for TPN/lipids). Label bags and tubing with date and time hung. (Refer to [Pediatric Peripheral IV Therapy Management - PED409](#)) and [Peripheral IV Therapy Management \(Adult\) Policy - PC342](#)
- F. Nutrition
1. Document route and amount of dietary intake.
 2. Set up trays, position patient and assist as needed.
 3. Offer baby food and formula per age and in accordance to diet orders.
 4. Provide special feeding implements as required, i.e. oral syringes, cleft palate bottles and nipples.
 5. Refer to [Enteral Feedings – PED403](#) for information regarding enteral feeding interventions.
 6. Refer to [Pediatric Breast Milk – PED418](#).
- G. Psychosocial/Emotional Assessment
1. Utilize Child Life.
 2. Document parents calls/visits on Doc Flowsheet.
 3. Utilize dry erase boards in rooms for communication and education.
 4. Notify Social Work or discharge planner of the following concerns:
 - a. Financial
 - b. Transportation

- c. Suspected abuse/neglect
- d. Poor coping mechanisms
- e. Decreased support
- f. New diagnosis of a chronic illness
- g. Post hospital equipment needs
- 5. Assess parenting skills and intervene as necessary.
- 6. Explain tests/procedures to parents or caregivers/child.
- 7. Determine if a patient must be accompanied by a nurse when off the unit based on:
 - a. Vital sign stability
 - b. LOC
 - c. O2 requirements/respiratory status:
 - Patient on O2 must be transported with O2
 - Patient with unstable O2 status must be transported with pulse oximeter
 - Trach patients must be transported with extra trach and suction catheter
 - Patients with unstable airway should be transported with bag valve mask device
 - d. Presence of IV, tracheostomy, C-R monitor, etc.
 - e. Level of mobility/activity
 - f. Patients requiring skilled care/monitoring (PIMCU) or unstable patients must be accompanied by an RN.
- H. Pediatric Treatment/Procedure Room
 - 1. The pediatric treatment/procedure room is designed to lessen the stress experienced by young patients undergoing hospital treatments.
 - 2. The pediatric treatment/procedure room should be utilized for the performance of interventional and minimally-invasive hospital procedures.
 - 3. Parents are welcome to stay in the room until the patient is sedated.
- I. Equipment in Patient Room
 - 1. Ensure bag/mask appropriate for patient size available in each room.
 - 2. Suction head present with suction equipment set-up.
 - 3. Cardio-respiratory and pulse oximetry monitoring equipment available.
 - 4. Pediatric Code 99 sheet, calculated by weight, hung at patient bedside
 - 5. O2 Flow meter available.
 - 6. Call light and phone within reach.
- J. PIMCU Specific
 - 1. Orientation
 - a. Orient patient/parent to the PIMCU area on admission, including:
 - b. PIMCU status and Pediatric department
 - c. PIMCU Team Coverage
 - d. Nursing Care Delivery – room assignments, PALS certified RN on floor
 - 2. Vital Signs
 - a. Nurse to obtain vital signs (T, P, R and BP) on admission and routinely every two (2) hours or as ordered by MD. Obtain vital signs (VS) at other times according to physician orders, patient condition or nursing standards of care. Place all patients on a CR monitor and pulse oximeter.
 - 3. Elimination
 - a. Strict I&O, daily weights as ordered by physician.
 - 4. Monitoring
 - a. Continually monitor VS per CR monitor; documenting VS and BP readings on EPIC at time of administration of any medication known to alter pulse and/pr BP. Recheck according to nursing standard.

- b. Focal assessments should be completed and documented every two (2) hours.
- c. The following must be in the room of all PIMCU patients: CR monitor, suction (bbg, Yankaur, & NT), appropriate size ambu bag out and set up, and face mask.
- 5. Education/Parenting
 - a. Educate patient/parent regarding the PIMCU Team. Inform patient/parent that primary physician will assume follow-up care after discharged from hospital.
 - b. Educate patient/parent regarding need for frequent assessments based on the child's level of illness/disease process, saving diapers, recording input
- 6. Document
 - a. Make sure PIMCU patient is documented on Charge Nurse report sheet, white board, and the staffing book with time status changed.

Attachments N/A

Other Related Links N/A

References N/A

Electronic Approval on File

Pamela Unger, RNC, MS
Director of Maternal Child Services

Appendix B
Chart Audit Tool

Confidential ID _____

Date _____

Initials of auditor _____

Patient's age _____

Patient's admitting diagnosis _____

Length of stay (in days) _____

Were head to toe assessments documented every 12 hours?

☐

Yes

☐

No

Comments:

Were focal assessments documented every 4 hours for floor status patients?

☐

Yes

☐

No

☐

N/A

Comments:

Were focal assessments documented every 2 hours for pediatric intermediate care patients?

☐

Yes

☐

No

☐

N/A

Comments:

For each day the patient was cared for, were there any changes in patient status between the morning and evening head to toe assessments that could have been identified earlier with more frequent head to toe assessments? ☐ None

Hospital day	Change in assessment

Is this chart audit being completed because of an unplanned transfer?

☐

Yes

☐

No

a) If yes, is this audit being completed within 24 hours of the transfer?

☐

Yes

☐

No

If you answered yes to either of the above questions, please complete the following questions.

What was the date and time of the transfer?

How much time passed from when the decline was first documented to when the patient was upgraded?

Was the patient transferred within 4 hours of admission?

What was the reason for the transfer?

What interventions were performed to prevent further status decline and need for upgrade?

Were any adverse outcomes noted?

What Pediatric Early Warning Scores were recorded for this patient?

Please note any other pertinent information below.

Appendix C
Registered Nurse Satisfaction Pretest

1. What is your sex?
 - ☐ Male
 - ☐ Female
2. What is your age?
3. How many years of experience do you have? (Include only your time as a registered nurse.)
4. How many years have you worked as a registered nurse at this hospital?
5. What is the highest degree you have earned?
 - ☐ Diploma
 - ☐ Associate degree
 - ☐ Bachelor's of Science in Nursing
 - ☐ Bachelor's degree (non-nursing)
 - ☐ Some graduate school
 - ☐ Graduate degree
6. On average, how many minutes do you spend charting in a 12 hour shift?
 - ☐ 30-60 minutes
 - ☐ 61-90 minutes
 - ☐ 91-120 minutes
 - ☐ more than 120 minutes
7. On average, how many minutes does it take you to chart a head-to-toe assessment on a floor status patient?
 - ☐ 30-60 minutes
 - ☐ 61-90 minutes
 - ☐ 91-120 minutes
 - ☐ more than 120 minutes
8. On average, how many minutes does it take you to chart a head-to-toe assessment on a PIMCU patient?
 - ☐ 30-60 minutes
 - ☐ 61-90 minutes
 - ☐ 91-120 minutes
 - ☐ more than 120 minutes
9. I always complete full head-to-toe assessments every 4 hours all patients as opposed to completing focal assessments.
 - ☐ Strongly disagree
 - ☐ Disagree
 - ☐ Neither agree nor disagree
 - ☐ Agree
 - ☐ Strongly agree

10. The amount of charting I do sometimes takes away from time for hands on patient care.
- ☐ Strongly disagree
 - ☐ Disagree
 - ☐ Neither agree nor disagree
 - ☐ Agree
 - ☐ Strongly agree
11. Completing head to toe assessments every 12 hours instead of every 4 hours allows more time for hands on patient care.
- ☐ Strongly disagree
 - ☐ Disagree
 - ☐ Neither agree nor disagree
 - ☐ Agree
 - ☐ Strongly agree
12. I think I have adequate time to complete all of my work (including charting) and provide excellent patient care.
- ☐ Strongly disagree
 - ☐ Disagree
 - ☐ Neither agree nor disagree
 - ☐ Agree
 - ☐ Strongly agree
13. Do you feel that you consistently provide excellent care?
- ☐ Yes
 - ☐ No
14. If you do not feel you consistently provide excellent care, please elaborate below.
Include reasons you do not feel you are consistently providing excellent care.

Appendix D
Registered Nurse Satisfaction Posttest

1. What is your sex?
 - ☐ Male
 - ☐ Female
2. What is your age?
3. How many years of experience do you have? (Include only your time as a registered nurse.)
4. How many years have you worked as a registered nurse at this hospital?
5. What is the highest degree you have earned?
 - ☐ Diploma
 - ☐ Associate degree
 - ☐ Bachelor's of Science in Nursing
 - ☐ Bachelor's degree (non-nursing)
 - ☐ Some graduate school
 - ☐ Graduate degree
6. On average, how many minutes do you spend charting in a 12 hour shift?
 - ☐ 30-60 minutes
 - ☐ 61-90 minutes
 - ☐ 91-120 minutes
 - ☐ more than 120 minutes
7. On average, how many minutes does it take you to chart a head-to-toe assessment on a floor status patient?
 - ☐ 30-60 minutes
 - ☐ 61-90 minutes
 - ☐ 91-120 minutes
 - ☐ more than 120 minutes
8. On average, how many minutes does it take you to chart a head-to-toe assessment on a PIMCU patient?
 - ☐ 30-60 minutes
 - ☐ 61-90 minutes
 - ☐ 91-120 minutes
 - ☐ more than 120 minutes
9. The amount of charting I do sometimes takes away from time for hands on patient care.
 - ☐ Strongly disagree
 - ☐ Disagree
 - ☐ Neither agree nor disagree
 - ☐ Agree
 - ☐ Strongly agree

10. Completing head-to-toe assessments every 12 hours instead of every 4 hours allows more time for hands on patient care.
 - ☐ Strongly disagree
 - ☐ Disagree
 - ☐ Neither agree nor disagree
 - ☐ Agree
 - ☐ Strongly agree
11. I think I have adequate time to complete all of my work (including charting) and provide excellent patient care.
 - ☐ Strongly disagree
 - ☐ Disagree
 - ☐ Neither agree nor disagree
 - ☐ Agree
 - ☐ Strongly agree
12. Do you feel that you consistently provide excellent care?
 - ☐ Yes
 - ☐ No
13. If you do not feel you consistently provide excellent care, please elaborate below. Include reasons you do not feel you are consistently providing excellent care.
14. In your opinion, has the change in frequency of head to toe assessments had a negative impact on code speeds? Please explain your answer.

Primary Care Provider Satisfaction Pretest

1. What is your sex?
 - ☐ Male
 - ☐ Female
2. What is your age?
3. How many years of experience do you have as a physician or advanced practice nurse?
4. How many years have you worked at this hospital?
5. What is your title?
 - ☐ PA
 - ☐ APN
 - ☐ MD
 - ☐ DO
6. How frequently are head-to-toe assessments completed by nurses on the inpatient pediatrics unit?
 - ☐ Every 4 hours
 - ☐ Every 6 hours
 - ☐ Every 8 hours
 - ☐ Every 12 hours
7. The frequency of head-to-toe assessments is adequate for identifying subtle changes in patient status.
 - ☐ Strongly disagree
 - ☐ Disagree
 - ☐ Neither agree nor disagree
 - ☐ Agree
 - ☐ Strongly agree
8. In your opinion, the nurses' documentation requirements are meeting your needs as a provider.
 - ☐ Strongly disagree
 - ☐ Disagree
 - ☐ Neither agree nor disagree
 - ☐ Agree
 - ☐ Strongly agree
9. I am pleased with the overall care my patients are receiving on the inpatient pediatrics unit.
 - ☐ Strongly disagree
 - ☐ Disagree
 - ☐ Neither agree nor disagree
 - ☐ Agree
 - ☐ Strongly agree
10. Is there anything you would like us to know about assessment frequency or the care your patients are receiving on the inpatient pediatrics unit?

Primary Care Provider Satisfaction Posttest

1. What is your sex?
 - ☐ Male
 - ☐ Female
2. What is your age?
3. How many years of experience do you have as a physician or advanced practice nurse?
4. How many years have you worked at this hospital?
5. What is your title?
 - ☐ PA
 - ☐ APN
 - ☐ MD
 - ☐ DO
6. The frequency of head-to-toe assessments is adequate for identifying subtle changes in patient status.
 - ☐ Strongly disagree
 - ☐ Disagree
 - ☐ Neither agree nor disagree
 - ☐ Agree
 - ☐ Strongly agree
7. In your opinion, the nurses' documentation requirements are meeting your needs as a provider.
 - ☐ Strongly disagree
 - ☐ Disagree
 - ☐ Neither agree nor disagree
 - ☐ Agree
 - ☐ Strongly agree
8. I am please with the overall care my patients are receiving on the inpatient pediatrics unit.
 - ☐ Strongly disagree
 - ☐ Disagree
 - ☐ Neither agree nor disagree
 - ☐ Agree
 - ☐ Strongly agree
9. Is there anything you would like us to know about assessment frequency or the care your patients are receiving on the inpatient pediatrics unit?